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EXAMINER
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LEE, SUSAN SHUK YIN

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 12/24/2002

21

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/603,595

Applicant(s)

LIM, DEUK-SUNG

Examiner

Susan S. Lee

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/1/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2852

### **DETAILED ACTION**

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, an elastic spring member must be shown (labeled) or the feature(s) canceled from the claim(s). No new matter should be entered. Currently, applicant's representatives amended the drawings so that an element that appears to be a spring coil labeled as "83" was deleted with respect to the reference number. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected under 37 CFR 1.75(a) because on page 4, lines 4-6, "the main body is formed with a first, a second, and a third paper transport paths for discharging the recording paper fed from the optional device" is not supported in any of the figures nor in the later parts of the specification on page 13, lines 14-16, stating "a first paper transport path 93 guides a paper sheet fed from multipurpose feeding unit assembly 20" not optional device 12 or 12' as stated on page 4, lines 4-6; and on page 13, lines 16-17, stating "a second paper transport path 94 guides a paper sheet fed from feeding cassette 15" not optional device 12 or 12' as stated on page 4, lines 4-6.

Appropriate correction is required.

Art Unit: 2852

***Claim Rejections - 35 USC § 112***

Claims 11 and 12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claim 11, lines 10-25, "said jammed paper removing means comprising: ... a rectangular base member ... paper feeding means, ... a guiding means for guiding a backward and forward movement of the feeding unit assembly" is not supported by the original specification. In the specification page 5, lines 8-10, it states "the jammed paper removing means" is composed so that one of the cover plates is formed to be resolved with a hinge shaft in the center and an elastic member is provided between the cover plate and the base member. There is never any mention of the jammed paper removing means comprising the rectangular base member, paper feeding means, and the guiding means but rather the multiple purpose feeding unit assembly comprises such structures (specification, page 4, line 16 – page 5, line 3; page 10, lines 2-5).

Claims 2-19 are rejected under 35 U.S.C. 112, first paragraph, because the best mode contemplated by the inventor has not been disclosed. Evidence of concealment of the best mode is based upon the jammed paper removing means as described in the specification as only "so constructed that a [sic] one of cover plates 23 and 23' is formed

Art Unit: 2852

to be revolved with a hinge shaft 81 in the center and an elastic member such as a tension coil spring is provided between cover plate 23 and base 21" (specification, page 12, lines 14-17). There is no description in the specification nor in the drawings on how is the jammed paper removed and how is the elastic spring member related to removing the jammed paper. There isn't even a figure in the drawings showing jammed papers in the feeding unit assembly nor a jammed paper being removed. The applicant's representative argues that there are inherent features of the jammed paper removal means such as in the declaration filed 10/9/02 and the appeal brief filed 5/7/02 on page 6, lines 8-10 in the summary of invention, the statements "when paper is jammed in feeding unit assembly 20, a user pulls assembly 20 in the direction of arrow E of Fig. 6 (Specification 15:4-12), which is resisted by the elastic member (e.g. tension coil spring) which stores mechanical energy when stretched" and on the same page 6, lines 17-19, the statement "guiding members 71 are entered into holes 74 (*id.*), and the stored mechanical energy of the elastic member is released as this occurs". Why weren't these features described in the specification? Why is applicant concealing this?

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2852

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 10, line 6, "the cover plate" lacks antecedent basis.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (Preamble - Jepson Claim and specification, page 2, lines 17-18) in view of Arai (828), Tominaga (Japan, 435), Gonidec et al. (476) and Yokota et al. (896).

Applicant's admitted prior art in the preamble discloses all elements of the apparatus, process, and process of making except for apparatus, process, and process of making a feeding unit with a jammed paper removing means.

Arai discloses a sheet jam removal device in a sheet conveying unit. The sheet jam removal device have a lower conveyor 32 or lower conveying guide 45 that is a

Art Unit: 2852

rectangular base member, a cover plate or upper conveyor 33 or upper conveying guide 50, paper feeding means 51 on upper conveyor 33 and 46 on the lower conveyor, and guiding means 35 for guiding the sheet jam removal device back and forth. As shown in Figs. 7a - 7b, there is a hinge shaft (not numbered in figures) located on the upper conveyor 33 for pivoting the upper conveyor 33 when it is separated from the lower conveyor 32. The linkage 34 links the upper conveyor 33 and the lower conveyor 32 which reads on the instant invention's elastic member. A handle shown in Fig. 2 is on the top of the front side of the main frame 30 of the sheet jam removal device for an operator to withdrawn the device from the image forming apparatus to access to it when a jam has occurred. When a jam occurs in this section of the image forming apparatus, a display section on the upper surface of the copying machine main body 1 will indicate a jam has occurred. Note column 7, line 39- column 8, line 65, and column 9, lines 19-45.

Tominaga discloses a medium processing device that eliminates jammed documents, replacing parts, checking and cleaning the inside of a device with an upper guide plate 5 and a lower guide plate 6 held together by a tension spring 18. An operator lifts up the upper guide plate 5 so that it pivots on shaft 11 and separates from lower guide plate 6 at an angle so that a jammed document can be removed. Note abstract and Figs. 1-6.

Art Unit: 2852

Gonidec et al. discloses a linkrod 26 that is a mechanical connection means between a front door 7 and a rear door 21 of a turbojet engine. This linkrod 26 may be replaced by a resilient element, such as a spiral spring. The resilient element preferably imparts a pivoting force to the rear door 21 relative to the front door 7. Note column 4, lines 25-34 and column 6, lines 38-47.

Yokota et al. discloses a printing machine with a printing head 2 swingable around a pivot. A suppressing member link 11 holds the printing head 2 off a platen roller 1 and against the force of the set spring 5 when an actuating lever 10, also connected with the suppressing member link 11, is pivoted to move the suppressing member link 11 to raise the printing head 2. This suppressing member link 11 can be a link member or a tension spring 11b like the set spring 5 (Fig. 2). This spring 11b can absorb the tension or stop the tension of the set spring 5. This will prevent bumping of the printing head 2 and the platen roller 1 against each other. Note column 2, lines 49-57, column 4, lines 9-36.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Applicant's Admitted Prior Art (Preamble - Jepson Claim and specification, page 2, lines 15-18) with that of Arai because it is well known in the art that sheet jams occur along a sheet conveyance path in an image forming apparatus and that it is difficult to remove them sometimes especially when it is located in the main body of the image forming apparatus. This is discussed in the

Art Unit: 2852

instant invention's specification, page 2, lines 15-18, of a conventional electro photo multi functional peripheral apparatus. In addition, sheet jams can occur due to a build up of static electricity, humidity, or heat inside the image forming apparatus causing sheets to shift its moving position, curl up, or stick together. In order to remove a sheet jam from a sheet path such as the feeding unit assembly recited in the preamble, one looks to Arai for an operator-accessible way that is noncumbersome (note Arai; column 2, lines 6-22) to maintain clearing of sheet jam in a path of a photocopy.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Applicant's Admitted Prior Art with that of Arai, Tominaga, Gonidec et al., and Yokota et al. because there is a problem with manufacturing the linkage of Arai due to the fact it requires many components or features such as an engage pin 70, a first slot 71, a second slot 72, a turning pin 65, and a grip portion 63 (note Arai; column 8, line 66 – column 9, line 18). The manufacturing of this linkage can be costly. Thus, using a tension spring 18 of Tominaga would be simple and cost effective since it reduces the number of components and features needed to allow two plates to separate and permit removal of jammed sheets or documents along a paper transport path. In addition, a linkage and a resilient member such as a spring are equivalent because Gonidec et al. and Yokota et al. shows they are equivalent structures known in the art. Therefore, because these two connecting members were art-recognized equivalents as shown in Gonidec et al. and Yokota et al. at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a linkage for a coil spring member.

Art Unit: 2852

Since applicant's representatives argue using *In re Donaldson* and § 112, 6<sup>th</sup> par. for the limitations of "the jammed paper removing means", examiner points out to the applicant's representatives that MPEP 2106 (II) (C) says "the claimed means plus function limitations" are given "their broadest reasonable interpretation consistent with all corresponding structures or materials described in the specification and their equivalents including the manner in which the claimed functions are performed". See *Kemco Sales, Inc v. Control Papers Company, Inc.*, 208 F. 3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000). Thus, in the specification, page 12, lines 14-17, it states that "the jammed paper removing means is so constructed that a [sic] one of cover plates 23 and 23' is formed to be resolved with a hinge shaft 81 in the center an elastic member such as a tension coil spring is provided between the cover plate 23 and base 21" and page 13, lines 2-3, it states, "the jammed paper removing means **may be** advantageously provided at the other cover plate 23'. This "jammed paper removing means" is interpreted as having alternatives since it is not clear from the language in the original specification. The "jammed paper removing means" may be the cover plate 23 or cover plate 23' or both plates 23, 23'. Since the Office personal are to give the claimed means plus function limitations their broadest reasonable interpretations described by the specification, elements of the combination of references of Applicant's Admitted Prior Art in view of Arai, Tominaga, Gonidec et al., and Yokota et al. are the same or

Art Unit: 2852

equivalent to the elements of the instant invention as described in the specification of the instant invention which has been identified as corresponding to the claimed "jammed paper removing means".

Claims 2, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (Preamble - Jepson Claim and specification, page 2, lines 15-18) in view of Arai (828), Gonidec et al. (476) and Yokota et al. (896).

Applicant's admitted prior art in the preamble discloses all elements of the apparatus, process, and process of making except for apparatus, process, and process of making a feeding unit with a jammed paper removing means.

Arai discloses a sheet jam removal device in a sheet conveying unit. The sheet jam removal device have a lower conveyor 32 or lower conveying guide 45 that is a rectangular base member, a cover plate or upper conveyor 33 or upper conveying guide 50, paper feeding means or upper convey rollers 51 on upper conveyor 33 and lower convey rollers 46 on the lower conveyor 32 or 45, and guiding means or guide rails 35 for guiding the sheet jam removal device back and forth. As shown in Figs. 7a - 7b, there is a hinge shaft (not numbered in figures) located on the upper conveyor 33 for pivoting the upper conveyor 33 when it is separated from the lower conveyor 32. The linkage 34 links the upper conveyor 33 and the lower conveyor 32 which is equivalent to the instant invention's elastic member. A handle shown in Fig. 2 is on the top of the front side of the main frame 30 of the sheet jam removal device for an operator to

Art Unit: 2852

withdrawn the device from the image forming apparatus to access to it when a jam has occurred. When a jam occurs in this section of the image forming apparatus, a display section on the upper surface of the copying machine main body 1 will indicate a jam has occurred. Note column 7, line 39- column 8, line 65, and column 9, lines 19-45.

Gonidec et al. discloses a linkrod 26 that is a mechanical connection means between a front door 7 and a rear door 21 of a turbojet engine. This linkrod 26 may be replaced by a resilient element, such as a spiral spring. The resilient element preferably imparts a pivoting force to the rear door 21 relative to the front door 7. Note column 4, lines 25-34 and column 6, lines 38-47.

Yokota et al. discloses a printing machine with a printing head 2 swingable around a pivot. A suppressing member link 11 holds the printing head 2 off a platen roller 1 and against the force of the set spring 5 when an actuating lever 10, also connected with the suppressing member link 11, is pivoted to move the suppressing member link 11 to raise the printing head 2. This suppressing member link 11 can be a link member or a tension spring 11b like the set spring 5 (Fig. 2). This spring 11b can absorb the tension or stop the tension of the set spring 5. This will prevent bumping of the printing head 2 and the platen roller 1 against each other. Note column 2, lines 49-57, column 4, lines 9-36.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Applicant's Admitted Prior Art (Preamble

Art Unit: 2852

- Jepson Claim and specification, page 2, lines 15-18) with that of Arai because it is well known in the art that sheet jams occur along a sheet conveyance path in an image forming apparatus and that it is difficult to remove them sometimes especially when it is located in the main body of the image forming apparatus. This is discussed in the instant invention's specification, page 2, lines 15-18, of a conventional electro photo multi functional peripheral apparatus. In addition, sheet jams can occur due to a build up of static electricity, humidity, or heat inside the image forming apparatus causing sheets to shift its moving position, curl up, or stick together. In order to remove a sheet jam from a sheet path such as the feeding unit assembly recited in the preamble, one looks to Arai for an operator-accessible way that is noncumbersome (note Arai; column 2, lines 6-22) to maintain clearing of sheet jam in a path of a photocopy.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Applicant's Admitted Prior Art with that of Arai, Gonidec et al., and Yokota et al. because the linkage 34 of Arai's sheet jam removal device is equivalent to the instant invention's elastic spring member as disclosed in the "jammed paper removing means" under § 112, 6<sup>th</sup> par. where they both perform the identical function in substantially the same way to achieve substantially the same result. See *Caterpillar Inc, v. Deere & Co.*, 224 F.3d 1374, 56 USPQ2d 1305 (Fed. Cir. 2000). Finding of statutory equivalence under § 112, 6<sup>th</sup> par. does not require "component by component" equivalence between the relevant structure identified in

Art Unit: 2852

patent and portion of accused device asserted to be structurally equivalent, even though analysis of equivalents under § 112, 6<sup>th</sup> par. is similar to that under doctrine of equivalents, since limitation of means-plus-function claim is overall structure corresponding to claimed function, and individual components, if any, of that overall structure are not individual limitations; structures with different numbers of parts therefore may be equivalent under § 112, 6<sup>th</sup> par., since relevant structure is that which “corresponds” to claimed function, and further deconstruction or parsing is incorrect. See *IMS Tech.*, 206 F3d at 1435, 54 USPQ2d at 1138 (Fed. Cir. 2000); and *Odetics Inc.*, 51 USPQ 2d at 1225. The specification, page 12, lines 14-17, states “ the jammed paper removing means is so constructed that a [sic] one of cover plates 23 and 23’ is formed to be revolved with a hinge shaft 81 in the center and an elastic member such as a tension coil spring is provided between cover plate 23 and base 21”. Since there is no explanation in the specification as to how the elastic member functions as part of a “jam paper removal means” except that it is “provided between cover plate 23 and base 21”. In addition, the a linkage and a resilient member such as a spring are equivalent as disclosed by Gonidec et al. and Yokota et al.. Gonidec et al. and Yokota et al. show they are equivalent structures known in the art. Therefore, because these two connecting members were art-recognized equivalents as shown in Gonidec et al. and Yokota et al. at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a linkage for a coil spring member.

Art Unit: 2852

The function of the elastic member from Figs. 9 and 10, is to allow the cover plate 23, after an operator lift it up, to stay at a position so the operator removes a sheet jam caught in between the cover plate 23 and base 21; and to keep the cover plate 23 down and mounted to base 21 when the cover plate is placed in its closed position. The linkage 34 of Arai performs the same function such as allowing the upper conveyor 33 after an operator lift it up to stay at a position so the operator removes a sheet jam caught in between the two conveyors; and keeping the upper conveyor 33 down and mounted to lower conveyor 32 when the upper conveyor 33 is in its closed position. Note column 7, line 48 – column 9, line 67. Thus, a person of ordinary skill in the art would have recognized the interchangeability of the linkage of Arai for the elastic member disclosed by the specification because they perform the same function in substantially the same way to achieve substantially the same result which is removal of the jammed sheet. This interchangeability is also shown in Gonidec et al. and Yokota et al..

Since applicant's representatives argue using *In re Donaldson* and § 112, 6<sup>th</sup> par. for the limitations of "the jammed paper removing means", examiner points out to the applicant's representatives that MPEP 2106 (II) (C) says "the claimed means plus function limitations" are given "their broadest reasonable interpretation consistent with all corresponding structures or materials described in the specification and their

Art Unit: 2852

equivalents including the manner in which the claimed functions are performed". See *Kemco Sales, Inc v. Control Papers Company, Inc.*, 208 F. 3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000). Thus, in the specification, page 12, lines 14-17, it states that "the jammed paper removing means is so constructed that a [sic] one of cover plates 23 and 23' is formed to be resolved with a hinge shaft 81 in the center an elastic member such as a tension coil spring is provided between the cover plate 23 and base 21" and page 13, lines 2-3, it states, "the jammed paper removing means **may be** advantageously provided at the other cover plate 23'. This "jammed paper removing means" is interpreted as having alternatives since it is not clear from the language in the original specification. The "jammed paper removing means" may be the cover plate 23 or cover plate 23' or both plates 23, 23'. Since the Office personal are to give the claimed means plus function limitations their broadest reasonable interpretations described by the specification, elements of the combination of references of Applicant's Admitted Prior Art in view of Arai, Gonidec et al., and Yokota et al. are the same or equivalent to the elements of the instant invention as described in the specification of the instant invention which has been identified as corresponding to the claimed "jammed paper removing means".

Claims 2, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (616) in view of Arai (828), Gonidec et al. (476), and Yokota et al. (896).

Art Unit: 2852

Sasaki et al. discloses a sheet-stacking device 60 comprising a sorter 57 and a sheet-feeder 59 for refeeding the sheets for duplexing in an image forming apparatus. The sorter 57 and sheet-feeder 59 read on the instant invention's optional auxiliary device and feeding unit, respectively. The means for increasing expansibility of the sorter 57 comprises paths such as 144, 125, and  $132_1 - 132_n$ . These paths or passages discharge sheets that are fed from sheet-feeder 59. Another cassette  $C_3$  with sheets that can be fed into the image forming apparatus by way of the sheet-feeder 59. Note Figs. 7 and 8; column 13, lines 3-65.

Sasaki et al. discloses all elements of the apparatus, process, and process of making except for apparatus, process, and process of making a feeding unit with a jammed paper removing means.

Arai discloses a sheet jam removal device in a sheet conveying unit. The sheet jam removal device have a lower conveyor 32 or lower conveying guide 45 that is a rectangular base member, a cover plate or upper conveyor 33 or upper conveying guide 50, paper feeding means or upper convey rollers 51 on upper conveyor 33 and lower convey rollers 46 on the lower conveyor 32 or 45, and guiding means or guide rails 35 for guiding the sheet jam removal device back and forth. As shown in Figs. 7a - 7b, there is a hinge shaft (not numbered in figures) located on the upper conveyor 33 for pivoting the upper conveyor 33 when it is separated from the lower conveyor 32. The linkage 34 links the upper conveyor 33 and the lower conveyor 32 which is equivalent to

Art Unit: 2852

the instant invention's elastic member. A handle shown in Fig. 2 is on the top of the front side of the main frame 30 of the sheet jam removal device for an operator to withdrawn the device from the image forming apparatus to access to it when a jam has occurred. When a jam occurs in this section of the image forming apparatus, a display section on the upper surface of the copying machine main body 1 will indicate a jam has occurred. Note column 7, line 39- column 8, line 65, and column 9, lines 19-45.

Gonidec et al. discloses a linkrod 26 that is a mechanical connection means between a front door 7 and a rear door 21 of a turbojet engine. This linkrod 26 may be replaced by a resilient element, such as a spiral spring. The resilient element preferably imparts a pivoting force to the rear door 21 relative to the front door 7. Note column 4, lines 25-34 and column 6, lines 38-47.

Yokota et al. discloses a printing machine with a printing head 2 swingable around a pivot. A suppressing member link 11 holds the printing head 2 off a platen roller 1 and against the force of the set spring 5 when an actuating lever 10, also connected with the suppressing member link 11, is pivoted to move the suppressing member link 11 to raise the printing head 2. This suppressing member link 11 can be a link member or a tension spring 11b like the set spring 5 (Fig. 2). This spring 11b can absorb the tension or stop the tension of the set spring 5. This will prevent bumping of the printing head 2 and the platen roller 1 against each other. Note column 2, lines 49-57, column 4, lines 9-36.

Art Unit: 2852

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Sasaki et al. with that of Arai because it is well known in the art that sheet jams occur along a sheet conveyance path in an image forming apparatus and that it is difficult to remove them sometimes especially when it is located in the main body of the image forming apparatus. Sheet jams can occur due to a build up of static electricity, humidity, or heat inside the image forming apparatus causing sheets to shift its moving position, curl up, or stick together. Sasaki et al. discloses that when a sheet conveying passage is long and complicated throughout the copying machine, the duplex copying structure and the sorter, the position where sheets can possibly jam is anywhere in the machine. This makes locating the paper jam more difficult. Also, since the intermediate tray and associated passages and feeding mechanism for copying are within the apparatus, it is not possible to locate the position of jam occurrence from outside of the machine, and therefore, it is necessary to open a cover or the like, thus removing the jam in a cumbersome manner (note Sasaki et al.; column 3, lines 34-48). In order to remove a sheet jam from a sheet path such as the sheet feeder 59 of Sasaki et al. which refeeds the sheet to get a duplex copy, one looks to Arai for an operator-accessible way that is noncumbersome (note Arai; column 2, lines 6-22) to maintain clearing of sheet jam in a re-feeding path of a photocopy with dual-sided printing capabilities. Since Sasaki et al. discloses in the prior art a paper jam can occur along the re-feeding passage due to the sheets being

Art Unit: 2852

curled from pressure and heat from the first sided copying, one would look to Arai to correct the paper jam because both Sasaki et al. and Arai disclose the problematic area of where paper jams occur in a duplex copying system and Arai teaches the solution. Note Arai; column 1, lines 5-11 and lines 20 - 32. The linkage 34 of Arai's sheet jam removal device is equivalent to the instant invention's elastic spring member as disclosed in the "jammed paper removing means" under § 112, 6<sup>th</sup> par. where they both perform the identical function in substantially the same way to achieve substantially the same result. See *Caterpillar Inc, v. Deere & Co.*, 224 F.3d 1374, 56 USPQ2d 1305 (Fed. Cir. 2000). Finding of statutory equivalence under § 112, 6<sup>th</sup> par. does not require "component by component" equivalence between the relevant structure identified in patent and portion of accused device asserted to be structurally equivalent, even though analysis of equivalents under § 112, 6<sup>th</sup> par. is similar to that under doctrine of equivalents, since limitation of means-plus-function claim is overall structure corresponding to claimed function, and individual components, if any, of that overall structure are not individual limitations; structures with different numbers of parts therefore may be equivalent under § 112, 6<sup>th</sup> par., since relevant structure is that which "corresponds" to claimed function, and further deconstruction or parsing is incorrect. See *IMS Tech.*, 206 F3d at 1435, 54 USPQ2d at 1138 (Fed. Cir. 2000); and *Odetics Inc.*, 51 USPQ 2d at 1225. The specification, page 12, lines 14-17, states " the jammed paper removing means is so constructed that a [sic] one of cover plates 23 and 23' is

Art Unit: 2852

formed to be revolved with a hinge shaft 81 in the center and an elastic member such as a tension coil spring is provided between cover plate 23 and base 21". Since there is no explanation in the specification as to how the elastic member functions as part of a "jam paper removal means" except that it is "provided between cover plate 23 and base 21". The function of the elastic member from Figs. 9 and 10, is to allow the cover plate 23, after an operator lift it up, to stay at a position so the operator removes a sheet jam caught in between the cover plate 23 and base 21; and to keep the cover plate 23 down and mounted to base 21 when the cover plate is placed in its closed position. The linkage 34 of Arai performs the same function such as allowing the upper conveyor 33 after an operator lift it up to stay at a position so the operator removes a sheet jam caught in between the two conveyors; and keeping the upper conveyor 33 down and mounted to lower conveyor 32 when the upper conveyor 33 is in its closed position. Note column 7, line 48 – column 9, line 67. In addition, a linkage and a resilient member such as a spring are equivalent as disclosed by Gonidec et al. and Yokota et al.. Gonidec et al. and Yokota et al. show they are equivalent structures known in the art. Therefore, because these two connecting members were art-recognized equivalents as shown in Gonidec et al. and Yokota et al. at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a linkage for a coil spring member. Thus, a person of ordinary skill in the art would have recognized the interchangeability of the linkage of Arai for the elastic member disclosed

Art Unit: 2852

by the specification because they perform the same function in substantially the same way to achieve substantially the same result which is removal of the jammed sheet.

The function of the elastic member from Figs. 9 and 10, is to allow the cover plate 23, after an operator lift it up, to stay at a position so the operator removes a sheet jam caught in between the cover plate 23 and base 21; and to keep the cover plate 23 down and mounted to base 21 when the cover plate is placed in its closed position. The linkage 34 of Arai performs the same function such as allowing the upper conveyor 33 after an operator lift it up to stay at a position so the operator removes a sheet jam caught in between the two conveyors; and keeping the upper conveyor 33 down and mounted to lower conveyor 32 when the upper conveyor 33 is in its closed position. Note column 7, line 48 – column 9, line 67. Thus, a person of ordinary skill in the art would have recognized the interchangeability of the linkage of Arai for the elastic member disclosed by the specification because they perform the same function in substantially the same way to achieve substantially the same result which is removal of the jammed sheet. This interchangeability is also shown in Gonidec et al. and Yokota et al..

Since applicant's representatives argue using *In re Donaldson* and § 112, 6<sup>th</sup> par. for the limitations of "the jammed paper removing means", examiner points out to the applicant's representatives that MPEP 2106 (II) (C) says "the claimed means plus

Art Unit: 2852

function limitations” are given “their broadest reasonable interpretation consistent with all corresponding structures or materials described in the specification and their equivalents including the manner in which the claimed functions are performed”. See *Kemco Sales, Inc v. Control Papers Company, Inc.*, 208 F. 3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000). Thus, in the specification, page 12, lines 14-17, it states that “the jammed paper removing means is so constructed that a [sic] one of cover plates 23 and 23’ is formed to be resolved with a hinge shaft 81 in the center an elastic member such as a tension coil spring is provided between the cover plate 23 and base 21” and page 13, lines 2-3, it states, “the jammed paper removing means **may be** advantageously provided at the other cover plate 23’. This “jammed paper removing means” is interpreted as having alternatives since it is not clear from the language in the original specification. The “jammed paper removing means” may be the cover plate 23 or cover plate 23’ or both plates 23, 23’. Since the Office personal are to give the claimed means plus function limitations their broadest reasonable interpretations described by the specification, elements of the combination of references of Sasaki et al. in view of Arai, Gonidec et al., and Yokota et al. are the same or equivalent to the elements of the instant invention as described in the specification of the instant invention which has been identified as corresponding to the claimed “jammed paper removing means”.

Art Unit: 2852

Claims 2, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (616) in view of Arai (828), Tominaga (Japan, 435), Gonidec et al. (476), and Yokota et al. (896).

Sasaki et al. discloses a sheet-stacking device 60 comprising a sorter 57 and a sheet-feeder 59 for refeeding the sheets for duplexing in an image forming apparatus. The sorter 57 and sheet-feeder 59 read on the instant invention's optional auxiliary device and feeding unit, respectively. The means for increasing expansibility of the sorter 57 comprises paths such as 144, 125, and  $132_1 - 132_n$ . These paths or passages discharge sheets that are fed from sheet-feeder 59. Another cassette  $C_3$  with sheets that can be fed into the image forming apparatus by way of the sheet-feeder 59. Note Figs. 7 and 8; column 13, lines 3-65.

Sasaki et al. discloses all elements of the apparatus, process, and process of making except for apparatus, process, and process of making a feeding unit with a jammed paper removing means.

Arai discloses a sheet jam removal device in a sheet conveying unit. The sheet jam removal device have a lower conveyor 32 or lower conveying guide 45 that is a rectangular base member, a cover plate or upper conveyor 33 or upper conveying guide 50, paper feeding means or upper convey rollers 51 on upper conveyor 33 and lower convey rollers 46 on the lower conveyor 32 or 45, and guiding means or guide rails 35 for guiding the sheet jam removal device back and forth. As shown in Figs. 7a - 7b,

Art Unit: 2852

there is a hinge shaft (not numbered in figures) located on the upper conveyor 33 for pivoting the upper conveyor 33 when it is separated from the lower conveyor 32. The linkage 34 links the upper conveyor 33 and the lower conveyor 32 which is equivalent to the instant invention's elastic member. A handle shown in Fig. 2 is on the top of the front side of the main frame 30 of the sheet jam removal device for an operator to withdrawn the device from the image forming apparatus to access to it when a jam has occurred. When a jam occurs in this section of the image forming apparatus, a display section on the upper surface of the copying machine main body 1 will indicate a jam has occurred. Note column 7, line 39- column 8, line 65, and column 9, lines 19-45.

Tominaga discloses a medium processing device that eliminates jammed documents, replacing parts, checking and cleaning the inside of a device with an upper guide plate 5 and a lower guide plate 6 held together by a tension spring 18. An operator lifts up the upper guide plate 5 so that it pivots on shaft 11 and separates from lower guide plate 6 at an angle so that a jammed document can be removed. Note abstract and Figs. 1-6.

Gonidec et al. discloses a linkrod 26 that is a mechanical connection means between a front door 7 and a rear door 21 of a turbojet engine. This linkrod 26 may be replaced by a resilient element, such as a spiral spring. The resilient element preferably imparts a pivoting force to the rear door 21 relative to the front door 7. Note column 4, lines 25-34 and column 6, lines 38-47.

Art Unit: 2852

Yokota et al. discloses a printing machine with a printing head 2 swingable around a pivot. A suppressing member link 11 holds the printing head 2 off a platen roller 1 and against the force of the set spring 5 when an actuating lever 10, also connected with the suppressing member link 11, is pivoted to move the suppressing member link 11 to raise the printing head 2. This suppressing member link 11 can be a link member or a tension spring 11b like the set spring 5 (Fig. 2). This spring 11b can absorb the tension or stop the tension of the set spring 5. This will prevent bumping of the printing head 2 and the platen roller 1 against each other. Note column 2, lines 49-57, column 4, lines 9-36.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Sasaki et al. with that of Arai, Tominaga, Gonidec et al., and Yokota et al. because it is well known in the art that sheet jams occur along a sheet conveyance path in an image forming apparatus and that it is difficult to remove them sometimes especially when it is located in the main body of the image forming apparatus. Sheet jams can occur due to a build up of static electricity, humidity, or heat inside the image forming apparatus causing sheets to shift its moving position, curl up, or stick together. Sasaki et al. discloses that when a sheet conveying passage is long and complicated throughout the copying machine, the duplex copying structure and the sorter, the position where sheets can possibly jam is anywhere in the machine. This makes locating the paper jam more difficult. Also, since the intermediate

Art Unit: 2852

tray and associated passages and feeding mechanism for copying are within the apparatus, it is not possible to locate the position of jam occurrence from outside of the machine, and therefore, it is necessary to open a cover or the like, thus removing the jam in a cumbersome manner (note Sasaki et al.; column 3, lines 34-48). In order to remove a sheet jam from a sheet path such as the sheet feeder 59 of Sasaki et al. which refeeds the sheet to get a duplex copy, one looks to Arai for an operator-accessible way that is noncumbersome (note Arai; column 2, lines 6-22) to maintain clearing of sheet jam in a re-feeding path of a photocopy with dual-sided printing capabilities. Since Sasaki et al. discloses in the prior art a paper jam can occur along the re-feeding passage due to the sheets being curled from pressure and heat from the first sided copying, one would look to Arai to correct the paper jam because both Sasaki et al. and Arai disclose the problematic area of where paper jams occur in a duplex copying system and Arai teaches the solution. Note Arai; column 1, lines 5-11 and lines 20 - 32.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Sasaki et al. with that of Arai, Tominaga, Gonidec et al., and Yokota et al. because there is a problem with manufacturing the linkage of Arai due to the fact it requires many components or features such as an engage pin 70, a first slot 71, a second slot 72, a turning pin 65, and a grip portion 63 (note Arai; column 8, line 66 – column 9, line 18). The manufacturing of this linkage can

Art Unit: 2852

be costly. Thus, using a tension spring 18 of Tominaga would be simple and cost effective since it reduces the number of components and features needed to allow two plates to separate and permit removal of jammed sheets or documents along a paper transport path. In addition, a linkage and a resilient member such as a spring are equivalent because Gonidec et al. and Yokota et al. shows they are equivalent structures known in the art. Therefore, because these two connecting members were art-recognized equivalents as shown in Gonidec et al. and Yokota et al. at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a linkage for a coil spring member.

Since applicant's representatives argue using *In re Donaldson* and § 112, 6<sup>th</sup> par. for the limitations of "the jammed paper removing means", examiner points out to the applicant's representatives that MPEP 2106 (II) (C) says "the claimed means plus function limitations" are given "their broadest reasonable interpretation consistent with all corresponding structures or materials described in the specification and their equivalents including the manner in which the claimed functions are performed". See *Kemco Sales, Inc v. Control Papers Company, Inc.*, 208 F. 3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000). Thus, in the specification, page 12, lines 14-17, it states that "the jammed paper removing means is so constructed that a [sic] one of cover plates 23 and 23' is formed to be resolved with a hinge shaft 81 in the center an elastic member such as a tension coil spring is provided between the cover plate 23 and base 21" and page

Art Unit: 2852

13, lines 2-3, it states, "the jammed paper removing means **may be** advantageously provided at the other cover plate 23'. This "jammed paper removing means" is interpreted as having alternatives since it is not clear from the language in the original specification. The "jammed paper removing means" may be the cover plate 23 or cover plate 23' or both plates 23, 23'. Since the Office personnel are to give the claimed means plus function limitations their broadest reasonable interpretations described by the specification, elements of the combination of references of Sasaki et al. in view of Arai, Tominaga, Gonidec et al., and Yokota et al. are the same or equivalent to the elements of the instant invention as described in the specification of the instant invention which has been identified as corresponding to the claimed "jammed paper removing means".

### ***Response to Arguments***

Applicant's arguments with respect to claims 2-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Remarks***

It is noted that applicant's representatives made remarks to an amendment to the specification on page 10, lines 9-11 of remarks. There were no amendments to the specification. It is also noted that applicant's representatives discuss "*BUSHNELL DECLARATION*". It is not understood why this is called Bushnell Declaration when the

Art Unit: 2852

declaration is signed by a person name Frank J. Dynda. Is there a different declaration not of record the representative is discussing? In addition, a linkage and an elastic spring member such as a spring are functional equivalent members known in the art. This is shown in Gonidec et al. and Yokota et al. as well as Evans et al. (072), where a spring can replace a linkage bar (note column 1, line 60- column 2, line 2); Kooy et al. (517), where a link 144 is replaced by a resilient connector 144a' in the form of a coil spring (note column 25, lines 8-13); and Green et al. (924), where a spring 140 could be replaced by a rigid link (note column 11, line 59 – column 12, line 4).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 703-308-2138. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 703-308-1373. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3432 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Application/Control Number: 09603595

Page 29

Art Unit: 2852

  
**SUSAN S.Y. LEE**  
**PRIMARY EXAMINER**

SL  
December 21, 2002